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ABSTRACT

Although the listening construct has been defined more widely in order to deal with the issue of lecture retention, these wider definitions suffer from serious conceptual and methodological problems, such as the assumption that receiving behavior is the same regardless of differing situations and messages. However, the literature would indicate that a comprehensive view of listening would include at least five factors: short term listening, short term with rehearsal, interpretive listening, lecture listening, and selective listening. The usual factor-analytic tests have confirmed the statistical independence of these factors, but more interesting are the differing listening "profiles" that result from the testing of different groups of listeners. Three groups (university students, army officers, and high school students) produced specific differences on a listening test for all five listening factors. Each of the scales also has a distinct "profile" with regard to the various ACT measures. This five-factor listening model has a number of immediate utilitarian benefits. First, it provides a comprehensive theoretical model based on fairly well-known memory functions. Second, it provides a comprehensive answer to the problems originally raised and ignored by researchers since the middle 1960s. And, third, it points to new directions in listening research. (HOD)

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CONCEPTUAL APPROACHES TO MEASURING LISTENING BEHAVIOR

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To say that "listening" is an essential communication skill is to risk restating the obvious. Most textbooks include material on listening, and "standard" models of communication stress the dual importance of both sending and receiving. But in spite of these protestations, researchers in speech communication have shown little real interest in listening, and as a consequence, our knowledge of the process has grown little in the last twenty years.

Early research assumed that the retention of information presented orally was the obvious operational definition of successful listening. Those who remember many facts were assumed to be good listeners, and those who retained only a few were assumed to be poor listeners. Ralph Nichols (1948) discovered that this retention was dependent on many factors, including verbal ability, intelligence, and motivation. Nichols' research was used as the conceptual foundation for the construction of standardized tests of listening behavior (Brown & Carlsen, 1955; Educational Testing Service, 1957), and a number of researchers utilized these instruments as measures of individuals' ability to listen. The use of these tests demonstrated that persons do indeed vary in their ability to retain information following spoken messages, and often that instructional efforts to improve this ability were successful.

The assumption that the ability to listen was a separate and unitary skill was sharply attacked in the middle of the 1960's

by Charles Kelly. He reasoned that if listening tests did indeed measure a separate ability, the Brown-Carlsen and the STEP tests of listening would be more highly correlated with each other than they would with other measures of cognitive ability. He found that they were not, and in fact were more highly correlated with tests of intelligence than each other. These data led Kelly, reasonably enough, to the conclusion that the ability that had previously been termed "listening ability" was in fact only an aspect of intelligence, and that the Brown-Carlsen and the STEP test were only different kinds of intelligence tests (Kelly, 1965, 1967).

Kelly's discoveries that the <u>capacity</u> to listen is identical with other cognitive abilities runs counter to a great deal of everyday experience. In spite of "intelligence" differences, some persons seem to be "good listeners" and others are not so good. Most of us have had experiences with persons of obvious intelligence who listen poorly. Teachers, parents, and job supervisors all complain that poor listening is one of their most significant problems.

One method of reconciling Kelly's findings with everyday experience has added "attitude" about listening to the the explanatory scheme. This attitude, or the "willingness" to listen has been defined as a separate component of the listening construct and is similar to basic interest in others' ideas. Often when we say that a person is a "good listener," this

attitude, rather than retentive ability is meant.

Carl Weaver was one of the first to incorporate this attitudinal dimension into a formal definition of listening. Listening, to Weaver, was "the selection and retention of aurally received data" (1972, p. 12.) Weaver went on to discuss "selective exposure," an attitudinally and culturally determined activity which expands the listening construct. Weaver also included information seeking as an important component.

An even broader definition was offered by Larry Barker, who defined listening as "the selective process of attending to, hearing, understanding, and remembering aural symbols" (1971, p. 17. The volitional aspect of listening is stressed by inclusion of "selective" and reinforced by "attending." This, together with hearing and comprehension make up an extremely broad definition of listening. Attending to aural symbols is much the same as selecting them, and remembering them is still included.

Barker's addition of comprehension and hearing as "factors" of listening is especially troublesome. To say that hearing is a "factor" of listening is certainly unarguable, but is much the same as saying that phonation is a "factor" in interpersonal communication. Having said this, we are left with the problem of integrating varieties of hearing (phonation) as a part of a theoretical structure. There is another more minor problem with hearing--it is an obvious physiological prerequisite to listening, but Barker does not tell us whether one can be

"listening for" something (such as a telephone call, or the doorbell) that is not heard. This is a minor point, however, compared to the assumption that "comprehension" is an important part of listening.

It is certainly obvious that comprehension of a spoken message is a vital element of anyone's communication theory. Watson and Barker (1984) have summarized the research concerning comprehension in a cogent and interesting review. This important cognitive skill is an important part of their listening test (the WBLT, developed in 1983). No data is yet available about the possible correspondence of this test with other measures of cognitive ability, such as intelligence.

The exact role of comprehension in assimilation is not at all clear. It seems to be at least possible that persons might listen and retain something that they did not understand, or even understand fully. In fact, it may be that the <u>eventual</u> understanding and reordering of message elements is an important part of the process of creativity (Haselrud, 1972). But common sense tells us that we can listen without full understanding--in fact, often the question of understanding is irrelevant. What does it mean to "understand" a telephone number, or an address? We can assign functions to these linguistic elements, but the functional interpretation of language holds cognitive integration (understanding) to be irrelevant (Miller and Johnson-Laird, 1976). The question of "understanding" is an

interesting one, and the role that it plays in retention is not clear. Whether understand affects retention--or, perhaps, whether it affects certain kinds of retention is a fascinating research question and awaits our attention.

Nor is the focus on "selective" listening without its problems. Receivers are selective because of basic perceptual habits and as the result of conscious choice. Factors determining the process of selective perception have been exhaustively studied, and to reclassify this important process as a part of "listening" seems presumptuous. The volitional element implied in the definition gives us even more difficulty. Not to listen to someone is to deny their value as a person, as well as a communicator. Consequently, listening is heavily freighted with emotional baggage. The statement that "No one listens to me," often accompanies severe social malaise, and has been used to justify highjacking and kidnapping.

A prominent manufacturer of data processing machines has recently used listening as the basis for a national advertising campaign, alleging that the people who work for their company "listen better" and consequently are nicer persons to do business with. To give this campaign credibility, the company has been conducting training sessions for its personnel, centering exclusively on listening attitudes and enjoining individuals to pay attention to each other and to their customers. The company feels that the campaign has succeeded

beyond their wildest dreams.

The real poverty of an attitudinal approach is dramatized when one attempts to codify it into some concrete behaviors which will result in "good" listening. Beyond acting interested and and not looking at one's watch while the other is talking, ther is little to do to convince others that one is <u>really</u> listening.

In spite of Barker's attempt to broaden the scope of interest in listening, those who do research in "listening" continue to rely on the lecture-retention model of listening (Buchli & Pearce, 1974; Palamatier & McMinch, 1972; Rossiter, 1972; Sticht & Glassnap, 1972). If this activity is wholly dependent upon intelligence, as we would conclude from Kelly's data, the use of lecture-retention as a dependent variable in listening research cannot be defended. But the measurement of interpersonal attitudes, hearing, and comprehension have not attracted a good deal of attention from researchers. In short, the listening construct has been defined more widely in order to deal with the issue of lecture-retention, but these wider definitions suffer from serious conceptual and methodological problems. Some other approach seems to be needed.

I

One serious problem that has affected thinking about listening has been the assumption that receiving behavior is the

same regardless of differing situations and messages. The "retention" model, for example, is entirely appropriate for a "lecture" but probably not as useful for routine interpersonal interactions. In many situations, the relationship between persons is the principal outcome of a communicative interaction, and retention of specific content is less important. For example, self-disclosure is typically done to strengthen an interpersonal bond (Miller and Steinberg, 1975, p. 324) and the bulk of communication between couples seems aimed at the relationship rather than objective content (Fitzpatrick, 1983).

Another obvious principle is that communication is a multipurpose activity, sometimes focussing on information and at other times behavior or attitude change. The ancients distinguished among several types of rhetoric (deliberative, forensic, and epideictic), and modern rhetorical criticism is usefully divided into genres. If communication (or sending) has so many defensible types, it seems curious that we have assumed that receiving is of only one kind. My own receiving behavior at commencement address differs markedly from my receiving behavior at a political meeting or even a sermon.

Nor are distinctions among varying types of communication confined to formal speaking. Informal communicative interactions probably vary even more widely. Descriptive linguists have been able to identify a substantial number of separate functions in the verbal behavior of children.

Halliday (1973) identified instrumental, regulatory, interactional, personal, heuristic, imaginative, and representational language behavior in children. Stoll (1983) drew on some of these functions in constructing a communication "competence" scale: dividing communicative activity into controlling, informative, heuristic, and expressive functions.

Regardless of which communication typology is subscribed to, almost everyone agrees that there are a number of differing communicative activities, with differing purposes, differing ideas of success or failure, and differing techniques. It seems only reasonable to ask if listening can be examined from the same kind of "functional" approach. In other words, if ordinary "sending" behavior is of many types, should not the receiving activity associated with it also vary?

How can listening differ? What basic forms could listening take? In an attempt to answer this question, Blaine Goss (1982) devised a model of listening that makes use of three kinds of information processing: signal processing, literal processing, and selective processing. Goss' "processing" steps, however, are not much different from Barker's functions: signal processing and hearing are quite similar, and selective processing (critical analysis and appreciation) seem much the same as "understanding." Further, Goss makes the assumption that all listening involves all of these processing steps, and does not distinguish among types of listening.

In other words, these approaches distinguish among steps in the process but make not attempt to examine any possible differences in fundamental types. Some other approach would seem to be necessary before we can successfully attempt a new listening typology.

II

An interesting question about listening arises from exploration of the question: once the information is processed, what do we do with it? Keep it or throw it away? Remember it momentarily or retain it forever? In a short conversation, it is certainly not important to retain every detail of the exchange--but in a "briefing" session, memory may be so important that we resort to aids such as tape recorders and notebooks to assist us. In other words, the kind of memory involved may be extremely different.

The varying kinds of memory (typically short-term and long-term) have been an object of investigation for some time (Loftus & Loftus, 1976). One reason why few communication researchers have been interested in the memory models is the almost-universal assumption among psychologists that memory is relatively mechanical and that individual differences are not a central issue for investigation. However, scholars in communication education have consistently demonstrated enhancement of listening after relatively short periods of instruction (Becker & Dallinger, 1960; Cottrill & Alciatore,

1974).

The word "storage" is often used to describe the memory system. Visual memory, for example, is usually attribued with three major levels or stage of storage--sensory, or perceptual, short-term, and long-term. long-term (Baddely, 1976, p. 76). In both visual and auditory memory systems, sensory storage is the most immediate and the least permanent of the stages; however, visual and auditory memory systems apparently function differently. Visual sensory storage probably lasts no longer than 500 milliseconds (Sperling, 1960). Auditory sensory storage seems to vary in length depending on disruption or masking of the stimulus, but may last up to three or four seconds. (Darwin, Turvey, & Crowder, 1972). It is not clear whether there is a separate auditory system for speech and nonspeech sounds. It is widely believed that the left hemisphere is specialized for speech processing and the right for nonspeech processing, is is assumed that speech sounds are remembered in terms of nonspeech sounds (Baddely, 1976, p. 236-237).

Short-term memory (STM) invloves pattern recognition. Transfer from sensory storage to short-term memory is usually described as "attention." STM seems to consist of a brief component that vanishes after 15 seconds, and an intermediate component that can last as long as 40 seconds if there is an opportunity for "rehearsal" (or storage in a special segment

that many have called a "rehearsal buffer" (Baddely, 1976, p. 242; Peterson & Peterson, 1959).

Long-term memory is what most persons commonly mean when they use the word "memory." Usually long-term memory is not activated till at least 60 seconds after the presentation of a stimulus. Actual entry into long-term memory may be dependent on both rehearsal and organizational schemes.

Even though we may be interested in the attention and comprehension processes involved in listening, when we get right down to it, memory is still the crucial process. Most of us would agree that it makes little sense to hear, attend to, or comprehend oral discourse unless we remember it or use it in some way. And since most memory researchers agree that memory has at least three components (short-term, rehearsal, and long-term), we might suspect that these three are invovled in listening behavior in different ways.

To investigate this idea, Bostrom and Waldhart (1980) devised listening tasks that involved short-term tasks, intermediate tasks with rehearsal, and a long-term "lecture." The assumption that individual's memories are substantially the same was not borne out in this study: individuals varied considerably in the three types of listening task. The usual approach to memory would predict that an an individual who was good at short-term listening (STL) would also be good at lecture listening. In Bostrom and Waldhart's study, the acutal correlation was .30.

Further, the lecture listening task was found to relate much more strongly with the respondents' ACT composite (a measure roughly corresponding to intelligence), while STL and STL-R (short-term with rehearsal) did not. Finally, and most interestingly, STL exhibited a closer relationship to oral skills than did lecture listening. This relationship has been reaffirmed in a number of instances, but more recent studies seem to indicate that STL-R has the stronger relationship with oral skill (Bostrom, 1980; Waldhart & Bostrom, 1981).

The differentiation of listening skill into short and long term components addresses a fundamental issue in communication theory: the delineation of communication into "interpersonal" (dyadic and small group activities) and "public"(more formal speaking). Clearly the good listener in a conversation should not be expected to remember specific data from the conversation, but is expected to hold the data in a short-term buffer just long enough to respond sensibly and continue the interaction. This does not mean, of course, that long term retention is not important, but it does point out a basic deficiency in the way we define listening skill as an essential part of communicative activity.

III

These data would seem to indicate that any definition of listening should include both short-term and long-term components, but does not address the question of whether

listening is a unique skill or ability or whether listening merely invokes memory skills. This question is partially answered by a study conducted by Bostrom and Bryant (1980), in which listening was compared to standard characteristics of memory. In this study, listening was found to differ from usual memory in several important characteristics, leading to the conclusion that listening is indeed a unique ability. In addition, there is evidence that persons with different listening skills use them differently. Persons who are relatively skilled in rehearsal listening (STL-R) suffer losses in retention when they are forced to take notes on a lecture, where persons who are poorer in STL-R are benefited from notes (Waldhart & Bostrom, 1981). In addition, STL and STL-R are enhanced by motivating instructions more than lecture listening (Bostrom, Waldhart & Brown, 1979).

A third form of listening is one that has received much attention as a form of "nonverbal" communication--the metalinguisitc factor we typically call "vocalic." Voices convey meaning through pitch and rate changes; through differences in rate and timbre. The ability to discern these "messages" has long been an assumption of communication researchers, but they have not been considered "listening" in the strictest sense. The discovery that the ability to discern this kind of message varies widely with individuals and does not covary with the other kinds of listening performance (Waldhart & Bostrom, 1981) implies that any comprehensive view of listening

must include this kind of ability. Watson and Barker's test (the WBLT) emphasizes, probably to a greater extent than others, this kind of ability.

In addition, individuals might well vary in their ability to perform in a situation when two simultaneous messages are presented. This ability has been described as the "cocktail party" phenomenon where persons hear two equally audible conversations and are able to attend to only one. This would seem to correspond to Goss' "selective" processing, and has been demonstrated to differ among individuals and to be somewhat different from STL and STL-R (Waldhart & Bostrom, 1981).

All of this seems to indicate that any comprehensive view of listening will include at least five factors: short-term listening (STL), short-term with rehearsal (STL-R), interpretive listening, lecture listening, and selective listening. At the University of Kentucky, we have devised a listening test which is administered by tape recording which includes all five of these factors (Bostrom & Waldhart, 1980b). The usual factor-analytic tests have confirmed the statistical independence of these factors, but more interesting is the differing listening "profiles" that result from the testing of different groups. Table I illustrates the ways in which college students, field-grade army officers, and high school students score on these five factors.

Insert Table I about here

Intact groups with known differences ought to produce specific differences if the tests are in fact measuring different abilities. Table I provides good evidence for the uniqueness of each kind of listening ability.

In another kind of camparison, Waldhart and Bostrom (1981) examined the relationships among some of the varying listening scales with ACT scores. Table II presents a summary of these relationships.

Insert Table II about here

Each of the scales has a distinct "profile" with regard to the various ACT measures.

Of great interest is the realtionships among varying listening measures with varying communicative abilities. Bostrom (1980) compared three of the scales (STL, STL-R, and Lecture) to varying measures of self-perception and ability assessments. These data generally supported the notion that skill in communication was more closely related to STL and STL-R than was lecture listening.

In another more comprehensive study, Sypher (1983) reports a variety of assessements of communicative abilities and attitudes in middle executives at a large eastern insurance company.

Table III presents part of these data. One of the most interesting of these is the strong relationship between STL and the ability to generate persuasive arguments in a communicative task (.64). Another interesting finding

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Insert Table III about here

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in this study is that women in the sample scored almost twice as well as men in interpretive listening. I maintain that this is clear evidence of face validity, but Sypher takes serious exception to that interpretation. Regardless of whose interpretation is accepted, it is clear that these separate scales exhibit relationships that are quite different from each other.

IV

In viewing listening from a functional pcint of view, the five-factor model has a number of immediate utilitarian benefits. First, it provides a comphrehensive theoretical model based on fairly well-known memory functions; and fits well irto private-public models of communicative behavior. Second, it provides a comprehensive answer to the problems originally raised by Kelly and ignored by researchers since the middle 1960's. Third, it points to new directions in listening research, an area substantiall ignored by researchers for a number of years.

The general importance of receiver behavior and the ultimate storage and use of information are of sufficient importance for us give the subject more than a cursory glance. Hopefully, some reconceptualization will stimulate more research and provide better ultimate answers.

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TABLE I

Percentage of Correct Responses Achieved by Various Groups

	STL	STL-R	Interpretative	Selective	Lecture
UNIVERSITY Students	65	80	54	66	49
ARMY OFFICERS	61	84	65	63	60
HIGH SCHOOL Students	74	87	53	76	45

TABLE II

Intercorrelations of Listening Subscales and ACT Subscales

	STL	STL-R	Int	Lect	Total
STL-R	.375				
Int	.083	.105			
Lect	.038	.207	.187		
Total	.628	.683	.549	.586	
Reading Rate	.122	.221	.215	.071	.258
Reading Comp	-.138	-.003	.022	.023	-.051
ACT Eng	.302	.224	.219	.260	.415
ACT Math	.282	.252	.162	.262	.394
ACT SocSt	.216	.191	.270	.290	.403
ACT NtSci	.091	.223	.127	.148	.238

Table III

Correlations among Varying Measures of Communicative Abilities and Listening Scales

	STL	STL-R	Int	Lect	Select
Construct Complexity	.08	.45	.07	.32	.36
Persuasive Arguments	.64	.39	.05	.48	.49
Supervisor's Evaluation	.19	.50	-.05	.54	.47
Perspective Taking	.23	.20	.04	.23	.38
Self Perception (Persuasive)	.11	.07	-.07	.18	.32
Self-Monitoring	.35	.29	.26	.52	.49